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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,983	03/19/2004	Mikhail Sergeevich Shchepinov	GJE-53XD1	8927

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EXAMINER

GAKH, YELENA G

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/804,983

Applicant(s)

SHCHEPINOV ET AL.

Examiner

Yelena G. Gakh, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 26-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/14/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Election of claims 20-25 with traverse filed 07/25/05 is acknowledged; however, since no arguments regarding restriction requirements were provided by the Applicants, the election is considered to be made without traverse.

#### *Specification*

2. The title of the invention is not relevant to the claimed subject matter. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Trityl mass-tags for calibrating mass spectrometers".

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 20 and 22-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites two groups of compounds (a) and (b) without any distinct difference between two groups, as both of them comprises at least two compounds of the same general structural formula. It is not clear from the claim, if the two groups are different at all, and if they are, as to how they are related to each other. The same is true for claims 22-25. Since no relation between two groups of the compounds are recited in the claims, the examiner considers prior art disclosing at least four (ten and twenty, respectively) different trityl derivatives with cleavable groups, which can form charged species in MS spectrometer, satisfying the subject matter of claims 20 and 22-23.

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Claims 23 and 24 are not clear as to how two mixtures are packaged into three or five packages, and what is the principle for the separation of two mixtures into such number of packages.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 20 and 22-25** are rejected under 35 U.S.C. 103(a) as obvious over Shchepinov Shchepinov et al. (Innovation and Perspectives in Solid Phase Synthesis, Int. Symposium, 1999) or Berlin et al. (Org. Mass Spectr.).

Shchepinov et al. disclose the following: "a new method of encoding has been developed based on the high desorption rate of triphenylmethyl-based tags under the conditions of LDI-TOF-MS, which is simpler than chromatog.-based methods. The trityl cations can be detected by LDI-TOF anal. with or without matrix. Combinatorial libraries of oligonucleotides on TentaGel were synthesized by a split- and mix-strategy using 5'-DMT or 5'-Fmoc nucleoside phosphoramidites. Trityls with different masses were utilized to tag the bases coupled at each step in the synthesis, by coupling different amines to activated carboxyl groups on the trityl moiety. Hybridization from the library selected the beads with specific oligonucleotide. The

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tags, which desorb and fly extremely well in the pos. mode of a LDI process, may be cleaved by either an acid or directly by laser during (MA) LDI-TOF. These tags are capable for encoding in strategies not involving strong acids, such as oligonucleotide and peptide synthesis and small mol. combinatorial libraries" (Abstract). Since combinatorial libraries with trityl-tagged compounds are disclosed, they comprise large number of compounds, with at least 20 compounds available.

Berlin discloses mass spectrometry of five classes of trityl compounds, including 25 trityl derivatives, which meet the recitations of the claims.


Although Shchepinov or Berlin do not specifically teach separately packaged mixtures of compounds, it would have been obvious for any person of ordinary skill in the art to have trityl compounds disclosed by Shchepinov or Berlin packaged for transporting for further analysis (e.g. to mass spectrometry laboratory), with the number of packages optimized for transportation, e.g. three, five, etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

8/31/05

  
**YELENA GAKH**  
**PRIMARY EXAMINER**